Section 4.17

Hazardous Waste Sites

This section discusses potential hazardous waste sites within the study area and the potential for the sites to be affected by the proposed build alternatives. It provides updated information on potential hazardous waste sites disclosed in the June 2000 Final EIS, as well as information on hazardous waste sites identified since publication of the Final EIS. In addition, this section presents information on impacts associated with aerially deposited lead.

4.17.1 Approach and Methodology

4.17.1.1 Changes since June 2000 Final EIS

To update the affected environment and environmental consequences information associated with potential hazardous waste sites in the study area, Sections 3.17 and 4.17 of the Final EIS were reviewed to determine what changes had taken place since publication of the Final EIS. The study area for potential hazardous waste sites is described in Section 4.0.1, *Study Area*, of this document.

Environmental databases were searched for properties or sites within the study area that have known contamination and sites that are regulated according to the requirements of state or federal laws (Environmental Data Resources 2003). The following is a list of environmental databases that were searched, many of which were also consulted during preparation of the Final EIS.

- Superfund Sites, Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS).
- National Priorities List (NPL), priority CERCLIS sites.
- Emergency Response Notification System (ERNS).
- Facility Index System (FINDS), a comprehensive database containing a description of other databases with more information.
- FIFRA/TSCA Tracking System (FTTS), a database created to register companies that handle toxic chemicals under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and Toxic Substance Control Act (TSCA).
- Solid Waste Landfills database (SWLF).

- Resource Conservation and Recovery Information System (RCRIS), Large-Quantity Generators (RCRIS-LQG), Small-Quantity Generators (RCRIS-SQG), and Treatment, Storage, or Disposal Facilities (RCRIS-TSDF).
- Open or closed mines (MINES).
- Aboveground storage tanks (AST).
- Underground storage tanks (UST).
- Leaking underground storage tanks (LUST), both open (under investigation) and closed (no additional actions are required or ever took place).
- Toxic Chemicals Release Inventory System (TCRIS or more commonly TRI).

To obtain additional information on sites identified through these database searches, the ArcIMS 3.0 interactive map viewer (UDEQ Division of Environmental Response and Remediation 2003) was reviewed. ArcIMS 3.0 is a web-based tool, maintained by the UDEQ Division of Environmental Response and Remediation (DERR), which provides consolidated location and status information on many of the sites listed in the databases above.

In addition, since publication of the Final EIS, soil samples were taken at two properties identified as sites of concern in the Final EIS: refinery effluent ditch from fuel tank farm (unique identification [ID] AP-3) and construction contractor yard (Hogan and Associates) (unique ID AP-10). These limited field investigations were conducted to further evaluate the potential to encounter soil or groundwater contamination at these sites (HDR Engineering 2000). Additional soil samples were also collected from undisturbed areas within existing UDOT right-of-way at the proposed northern and southern interchange locations. These samples were collected to assess the risk associated with encountering high concentrations of aerially deposited lead at proposed Legacy tie in locations. These areas were chosen because they were located adjacent to existing highway systems where tire wear and the past use of leaded gasoline made the possibility of encountering aerially deposited lead more likely.

Furthermore, David West, Right-of-Way Manager for UDOT, was contacted to determine whether any potential hazardous waste sites within the proposed Alternative D right-of-way had been acquired since publication of the Final EIS.

Impacts on potential hazardous waste sites were also reassessed to determine whether the narrower typical cross section proposed in the Supplemental EIS for each of the build alternatives (i.e., 95 m [312 ft] versus 100 m [328 ft], as described in Chapter 3, *Alternatives*, of this document) would change the impacts on hazardous waste sites disclosed in the Final EIS.

4.17.1.2 Changes since Draft Supplemental EIS

For various reasons—including minor alignment modifications, updates of information, and corrections of inadvertent miscalculations—changes have been made to the calculations of impacts for some resources since the Draft Supplemental EIS was published in December 2004. For this hazardous waste section, however, no changes have occurred since the publication of the Draft Supplemental EIS that required updating the disclosure of impacts related to hazardous waste sites.

4.17.2 Affected Environment

This section presents a summary of updated information on the affected environment relative to potential hazardous waste sites. Additional hazardous waste sites identified during the database searches described above are listed below. Several potential hazardous wastes sites identified in the Final EIS have been acquired since publication of the Final EIS. The location and status of these properties are also described in this section.

4.17.2.1 Potential Hazardous Waste Sites

As described in Section 3.17.1 of the Final EIS, 63 potentially hazardous waste sites are located in or near the study area. These sites are listed in Table 3-37 and shown in Figures 3-25a through 3-25f in the Final EIS.

Since publication of the June 2000 Final EIS and during preparation of this Supplemental EIS, remediation began at one of the sites identified in Section 3.17.1 of the Final EIS, the Portland Cement Site 5 (UDEQ 3). This site is located adjacent to the right-of-way of the build alternatives. It was an active Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) site and repository for cement kiln dust containing arsenic, lead, and other metals. Potential was identified for contaminated groundwater from this site to migrate into or be present within the rights-of-way of the build alternatives and for dust to be windblown or carried by stormwater runoff into the rights-of-way of the build alternatives. At the time the Final EIS was published, it was determined that no remediation was required for this site under any of the build alternatives. Remediation at the Portland Cement Site 5 (UDEQ 3) is occurring independently of the Legacy Parkway project, and the project would not require additional remediation.

Three additional potential hazardous waste sites were identified during the database search described above. These were the only additional sites identified for evaluation in the Supplemental EIS. The additional sites are described below and shown in Figure 4.17-1.

BFI/Stericycle (S104968070)

This site was identified in the SWLF, RCRIS (RCRIS-LQG), and TRI databases. Its LQG unique ID number is S104968070. The address of this site is 90 North 1100 West, North Salt Lake, which is the same address as BFI Waste Systems, a private waste-hauling company. This site contains a medical waste incinerator and may also support a small waste storage area, although no waste storage or treatment is permitted onsite. This site may also be listed because of the waste collection vehicles that are typically stored at such facilities. No notices of violation were identified in the EPA Facility Registry System (FRS).

Quality Plating (1001225950)

This site was identified in the RCRIS database as an RCRIS-SQG, unique identification number 1001225950. It is located at 2425 South, 2087 West, North Salt Lake, east of the alternative alignments. No notices of violation were identified in the EPA FRS.

Davis County Jail (U000557897)

This site was identified in the LUST database, unique identification number U000557897. It is located south of State Street near the proposed northern terminus. Two UST's, one containing diesel fuel and the other gasoline, were removed from the site in September 1996. During removal of the tanks, diesel fuel was discovered, requiring remediation of the site and identification in the LUST database. The site was remediated and the incidents filed in the LUST database were closed (i.e., require no further action) in 1997. No other notices of violation were identified in the EPA FRS.

Table 4.17-1 lists the name, unique ID number, and site type for these three potential hazardous waste sites, as well as the environmental databases that they were identified in.

Table 4.17-1 Potential Hazardous Waste Sites Identified since Publication of the Final EIS

Site Name	Unique ID Number	Site Type	Source of Information
BFI/Stericycle	S104968070	RCRIS-LQG	SWLF, RCRIS, TRI
Quality Plating	1001225950	RCRIS-SQG	RCRIS
Davis County Jail	U000557897	LUST	State LUST/UST List

Note:
Additional potential hazardous waste sites that occur in the study area are listed in Table 3-37 in the Final EIS.

Table 4-36d in the Final EIS lists all potential hazardous waste sites within the right-of-way of Alternative D (Final EIS Preferred Alternative), as well as those that occur approximately 200 m (656 ft) (i.e., a reasonable distance) of the Alternative D right-of-way. The information in this table has not changed since publication of the Final EIS, except that the three new potential hazardous waste sites listed above are all located within 200 m (656 ft) of the Alternative D/E right-of-way. In addition, several of the sites located within the Alternative D right-of-way have been acquired since publication of the Final EIS (West pers. comm.[c]). Table 4.17-2 below lists the current status of all the sites that occur within the right-of-way of Alternatives D and E, and states whether they have been acquired by UDOT. For comparative purposes, Table 4.17-3 lists the potential hazardous waste sites described in Table 4.17-2 and indicates whether they would occur within the right-of way of any other build alternative.

Table 4.17-2 Status of Hazardous Waste Sites in Alternatives D and E Right-of-Way

Site Name	Unique ID Number	Status
Bay Area Refuse Disposal Site (Bountiful City Landfill)	39982	Property has been acquired, but no construction activities have occurred at this location. Potential impacts associated with this site have not changed since publication of the Final EIS
UST (UST 4001371)*	2189010	No change in status since publication of the Final EIS.
Firing Range	AP-1	No change in status since publication of the Final EIS.
Effluent Ditch from Fuel Tank Farm	AP-3	Soil samples collected at site. See 4.17.2.2 for additional information.
Auto Repair Shop	AP-8	Property has been acquired. Onsite structures demolished and site cleared since publication of the Final EIS.

Site Name	Unique ID Number	Status
Construction Contractor Yard (Hogan & Associates)	AP-10	Soil samples collected at site. See 4.17.2.2 for additional information.
Paving Contractor Yard	AP-11	Property has been acquired. Site remediation completed in 1998, as described in Section 4.17.3 of the Final EIS.
North West Oil Drain	AP-12	No change in status since publication of the Final EIS.
Petroleum Pipelines (Amoco, Chevron, and Pioneer)	NA	No change in status since publication of the Final EIS.

Note:

* Unable to locate UST site using the Final EIS Unique ID number. Review of DERR interactive map showed UST 4001371 in the same location as UST 2189010 shown in Figure 4-19a in the Final EIS.

Table 4.17-3 Hazardous Waste Sites in Alternatives D and E Right-of-Way That Would Also Be Affected by Other Build Alternatives

		Build Alternatives[1, 2]			
Site Name	Unique ID Number	A	B	C	D and E
Bay Area Refuse Disposal Site (Bountiful City Landfill)	39982		X	X	X
UST (UST 4001371)	2189010	X	X	X	X
Firing Range	AP-1	X		X	X
Effluent Ditch from Fuel Tank Farm	AP-3	X	X	X	X
Auto Repair Shop	AP-8	X			X
Construction Contractor Yard (Hogan & Associates)	AP-10	X			X
Paving Contractor Yard	AP-11	X	X	X	X
North West Oil Drain	AP-12	X	X	X	X
Petroleum Pipelines (Amoco, Chevron, and Pioneer)	NA	X	X	X	X

Notes:

[1] An "X" in a column indicates that the site would be in the right-of-way of the indicated build alternative.

[2] Only hazardous waste sites that occur within the Alternatives D and E right-of-way (see Table 4.17-2) are listed in this table. This information is presented for comparative purposes to illustrate whether other build alternatives would also affect these sites. There are hazardous waste sites that are not listed in this table that would be affected by Alternatives A, B, and C. The status of such sites has not changed since publication of the Final EIS; see Section 4.17.4 of the Final EIS for a detailed discussion of those sites.

4.17.2.2 Results of Field Investigations

Since publication of the Final EIS, limited field investigations have been conducted to further evaluate the potential to encounter soil or groundwater contamination at two hazardous waste sites in the study area:

effluent ditch from fuel tank farm (AP-3) and construction contractor yard (Hogan and Associates) (AP-10) (HDR Engineering 2000). Because these two sites were located in the Alternative D right-of-way, they were targeted to assess the risk of encountering contamination. The results of those field investigations are summarized below.

Effluent Ditch from Fuel Tank Farm (AP-3)

Four soils samples were collected at AP-3. Diesel-range petroleum hydrocarbons were detected in all four samples, and gasoline-range petroleum hydrocarbons were detected in three of the four samples, although none of the detected contaminants was above allowable standards. Oil and grease contamination was also detected in one of the samples (HDR Engineering 2000).

Construction Contractor Yard (Hogan and Associates) (AP-10)

Two areas with stained soil were located during field reconnaissance at AP-10. The first covered a 19-sq m (200-sq ft) area near a drum storage area on the site, and the second covered a 9-sq m (100-sq ft) area near an AST on the site (HDR Engineering 2000). Soil samples collected showed petroleum contamination to a depth of approximately 0.6 m (2 ft) at both locations. Contamination levels were not above allowable standards.

4.17.2.3 Aerially Deposited Lead

The historic use of leaded gasoline and tire wear can lead to a potential increase in concentrations of aerially deposited lead in unpaved areas adjacent to roads and highway. Aerially deposited lead (usually found within the top 0.6 m [2 ft] of soil) and lead in general can cause a range of health effects, including behavioral problems, learning disabilities, seizures, and even death. Children 6 years old and under are at particular risk from lead exposure because their bodies are growing quickly (U.S. Environmental Protection Agency 2003a).

There is a potential for construction workers to encounter aerially deposited lead in unpaved areas in the study area that are adjacent to existing roads, in particular in areas near proposed interchange locations. To estimate the potential impacts on construction workers from aerially deposited lead in these areas, UDOT collected and analyzed soil samples from undisturbed areas near the proposed southern and northern termini of the project (Sadik-McDonald pers. comm.). These areas were chosen because they were located adjacent to existing highway systems where tire wear and the past use of leaded gasoline made the possibility of encountering aerially deposited lead more likely. The results of analysis of these samples showed between 28 and 77 milligrams of lead per kilogram of soil (mg/kg). These levels are below both the average background lead concentrations in the Salt Lake Valley (123 mg/kg) and EPA's typical level of concern for lead (400 mg/kg). This potential impact is disclosed below in Section 4.17.3.4.

4.17.3 Environmental Consequences and Mitigation Measures

As described in the Final EIS, all the proposed build alternatives could affect potentially hazardous waste sites in the study area. The screening process used to determine which of the hazardous waste sites were of the greatest concern relative to construction of each of the build alternatives has been updated since publication of the Final EIS, as described below. The updated screening process and the potential impacts

associated with the identified hazardous waste sites are described below. In addition, impacts on construction workers from aerially deposited lead in the study area are discussed below.

The reduction of the right-of-way width from 100 m (328 ft) to 95 m (312 ft) did not change the impact conclusions associated with potential hazardous waste sites.

4.17.3.1 Site Screening

As described in the Final EIS, potential hazardous waste sites were screened to identify the sites in or near the proposed alignment that were more likely to contain contaminated soil or groundwater. Specifically, the screening process entailed the following two steps.

- Identifying the type of site or event and its current status (described in Section 4.17.2 above).
- Comparing the site's location to the proposed alignments (by proximity and location, with respect to the hydraulic gradient of the water table).

The potential hazardous waste sites were divided into three categories depending on their probability of environmental degradation: high, medium, and low. Only sites that were within 1.6 km (1 mi) of a proposed alternative right-of-way, a distance used for purposes of database search and initial site screening, were considered during this initial evaluation.

The process used in the Supplemental EIS for dividing the potential hazardous waste sites into the three categories was similar to that used in the Final EIS (described in Section 3.17.3 of the Final EIS). However, several additional site types not identified in the Final EIS were added for evaluation in the Supplemental EIS. Updated information relative to these categories is provided below.

Each of the site types (described below and listed in Table 4.17-1 above and Table 3-37 in the Final EIS) was compared to these three categories to yield a preliminary indication of the probability of environmental degradation. These sites were then evaluated to determine whether they were within or adjacent to (i.e., within 200 m [656 ft] of) the right-of-way of a build alternative. Based on their proximity to a right-of-way, the inferred groundwater flow direction, and their probability of environmental degradation, the sites were categorized as sites of "greater" or "secondary" concern. A complete description of this site screening process is provided in Sections 3.17.3 and 4.17.2 of the Final EIS.

High Probability of Environmental Degradation

The Final EIS identified CERCLA and NPL sites as sites that typically have a high probability of existing soil or groundwater contamination. For purposes of this supplemental analysis, open LUST sites (i.e., those that are currently under investigation) were also considered sites with a high probability of environmental degradation. Open LUST sites are included in this category because of the unknown nature of the site.

Medium Probability of Environmental Degradation

The Final EIS identified active USTs and active or closed SWLFs as sites that typically have a medium probability of environmental degradation. For purposes of this supplemental analysis, closed LUST sites (i.e., LUST sites where a compliance matter has been closed/resolved), RCRIS-TSDF sites, and MINES sites are also considered sites that have a medium probability of environmental degradation.

Closed LUST sites are included in this category because, depending on the circumstances of the LUST closure, they can have residual contamination that could pose a threat to human health or the environment if disturbed. RCRIS-TSDF sites, which treat, store, or dispose of hazardous wastes, are sites for which no releases have been reported; therefore, they were considered medium risk. Sites with historic mining operations are considered medium risk because they have a moderate chance of contamination.

Low Probability of Environmental Degradation

The Final EIS identified RCRIS-SQG, RCRIS-LQG, ERNS and HMIRS hazardous material spill sites, removed and closed UST's, and Clean Air Act (CAA) Title 3 sites (regulated air emissions) as sites that typically have a low probability of environmental degradation. For purposes of this supplemental analysis, registered AST and FTTS sites are also considered sites that have a low probability of environmental degradation.

Registered AST sites are considered to have a low probability of environmental degradation because visual evidence of a leak at an AST is easier to detect than a leak at an UST. As a result, contamination can be more quickly contained and managed to prevent potential migration into the groundwater table or to an offsite location. A large quantity release at an FTTS site would result in the site showing up in either the RCRIS or CERCLIS database.

4.17.3.2 Impacts from Potential Hazardous Waste Sites

As described in the Final EIS, each build alternative could affect potential hazardous waste sites within or adjacent to the proposed build alternative rights-of-way. Contaminated soil and/or groundwater associated with potential hazardous waste sites could affect worker health and safety during construction and could result in construction delays. Work in and around contaminated areas could also result in spreading of the contamination. As described in the Final EIS, the greatest potential to encounter contaminated groundwater exists where excavations are required (i.e., bridges or culvert crossings) or where piles are needed (i.e., bridges).

As described in Section 4.17.2.1 above, three new hazardous waste sites have been identified since publication of the Final EIS. The potential for these sites to be affected by the build alternatives is discussed below. There is no change to the impact conclusions relative to potential hazardous waste sites disclosed in the Final EIS, except that several hazardous waste sites identified in the Final EIS have been acquired and remediated since publication of the Final EIS (as described in Section 4.17.2.1 above) and the Portland Cement Site 5 (UDEQ 3) is currently undergoing remediation.

No-Build Alternative

Existing Conditions (2004)

Under the existing conditions No-Build Alternative, neither the hazardous waste sites described in the Final EIS nor the newly identified sites described in this chapter would be affected because no construction would occur.

Future Conditions (2020)

If none of the build alternatives is implemented, future transportation improvement projects may be undertaken by local jurisdictions in the study area to address capacity needs not being met by the proposed action. In addition, private development will continue to occur at the rate of approximately 283 ha (700 ac) per year, although the type and timing of this development is indeterminate. It is possible that

these future projects would impact potential hazardous waste sites in the study area, although the nature and timing of these projects are not known at this time. As noted earlier, future development will have as much impact as future transportation projects, if not more.

Build Alternatives

Section 4.17.4 and Tables 4-36a through 4-36d of the Final EIS discuss the potential hazardous waste sites that would be affected by construction of the build alternatives. The proposed narrower right-of-way associated with the build alternatives in this Supplemental EIS would not affect any of the impact conclusions disclosed in the Final EIS. Field investigations at the effluent ditch for the fuel tank farm (AP-3) and the construction contractor Yard (Hogan & Associates) (AP-10) confirmed the presence of contaminants (see Section 4.17.2.1 above) and the Final EIS conclusion that remediation activities would likely be required at these sites prior to construction of any proposed build alternative.

As stated in Section 4.17.2.1 above, the Portland Cement Site 5 (UDEQ 3) is currently undergoing remediation to remove the piles of kiln dust and contaminated soils. This will reduce the potential for contaminated groundwater, windblown dust, or stormwater runoff from the site to affect the construction of the build alternatives. In addition, the remediation will significantly reduce the potential for windblown dust from this site to expose motorists to contamination in the future. Some potential for contaminated groundwater will remain despite the remediation efforts.

Section 4.17.2 above describes three additional hazardous waste sites identified in the study area since publication of the Final EIS. If hazardous materials are present at the BFI/Stericycle (S104968070), shallow groundwater could be contaminated. Although the BFI/Stericycle (S104968070) site is located 50 m (164 ft) to 100 m (328 ft) east and north of the right-of-way for the proposed Center Street overpass (i.e., outside the proposed right-of-way of all build alternatives), the hydraulic gradient at the site could cause contamination, if present, to migrate into the right-of-way associated with Alternatives A, C, D, and E. The mitigation measures described in the Final EIS and summarized below would minimize adverse impacts associated with potential contamination.

The Quality Plating (1001225950) and the Davis County Jail (U000557897) sites do not have the proximity or the necessary location with respect to the hydraulic gradient of the water table to pose a significant contamination threat to construction of any build alternative. Quality Plating is located approximately 200 m (656 ft) east of the rights-of-way associated with Alternatives A, D, and E, and over 200 m (656 ft) east of the rights-of-way of Alternatives B and C. In addition, this site is an RCRIS-SQG site and poses a low probability of environmental degradation (see Section 4.17.3.1 above). The Davis County Jail is located more than 200 m (656 ft) west of the rights-of-way associated with Alternatives A, C, D, and E. Because the groundwater at the jail site is assumed to move west, this site would not be affected by construction of any proposed build alternative. It is also unlikely that the Davis County Jail site would be affected by construction of Alternative B because the proposed Alternative B alignment is located approximately 2 km (1.2 mi) west of the jail site, a relatively large distance.

4.17.3.3 Mitigation Measures for Impacts from Potential Hazardous Waste Sites

The mitigation measures described in Section 4.17.5 of the Final EIS are still applicable. Sites with known chemical hazards that occur within or adjacent to the right-of-way of a proposed build alternative would be remediated by UDOT based on guidance received from EPA and/or UDEQ. Similarly, if contamination by unknown chemicals is encountered, construction work would be halted until the nature of the hazard and appropriate response measures could be determined.

4.17.3.4 Impacts from Aerially Deposited Lead

As described in Section 4.17.2.3 above, there is a potential for construction workers to encounter aerially deposited lead in unpaved areas in the study area that are adjacent to a road right-of-way, and, in particular, near the proposed interchange locations with I-15. The following provides a discussion of this construction-related impact.

No-Build Alternative

Existing Conditions (2004)

No construction would occur under the existing conditions No-Build Alternative, so there would be no potential for construction workers to be exposed to aerially deposited lead.

Future Conditions (2020)

If none of the build alternatives is implemented, future transportation improvement projects may be undertaken by local jurisdictions in the study area to address capacity needs not being met by the proposed action. In addition, private development will continue to occur at the rate of approximately 283 ha (700 ac) per year, although the type and timing of this development is indeterminate. It is possible that these future projects would impact areas with higher concentrations of aerially deposited lead, although the nature, timing, and location of these projects are not known at this time.

Build Alternatives

Each build alternative includes construction of several interchanges where the proposed action encounters existing roads and highways. As described above in Section 4.17.2.3, soil samples collected near the proposed southern and northern termini of the project showed levels of aerially deposited lead below both the average background lead concentration for the Salt Lake Valley and EPA's typical level of concern for lead. Therefore, based on the limited sample results, there is a low possibility of encountering aerially deposited lead at concentrations that would result in adverse health effects. However, construction workers will be instructed to take precautions to limit the amount of dust inhaled. In addition, dust control measures will be employed to minimize the release of lead dust into the atmosphere.